

Group Machining of Parts (Cont.)	853
Ch. II. Group Method of Machining Parts	16
1. General characteristics of the grouping method	16
2. Principles of planning group manufacturing processes	17
3. Classification of parts (grouping)	20
4. Development of the group manufacturing process	34
Ch. III. Design of Special Devices for Group Production	57
Ch. IV. Modernization of Equipment	70
1. Modernization of turret lathes	71
2. Modernization of lathes as related to the grouping of machine parts	83
3. Modernization of milling machines	104
Ch. V. Group Machining of Parts as a Basis for Developing Unit Head Machine Tools	109
Ch. VI. Application of the Group Method to Various Kinds of Machining of Parts	111
Card 3/4	

Group Machining of Parts (Cont.) 853

Operation of machine tool	Increase in efficiency (percent)	Reduction of set-over time (percent)
Turret lathe	40-50	50-60
Turning lathe	20-30	20-30
Milling machine	25-30	70-80
Drilling machine	20	(not given)

The author thanks the following persons for their active participation in introducing the grouping method to the industry: Engineers: Ye.K.Ivanov, M.L.Tas'ba, I.S.Gindin, A.A.Karabel'nikov, V.I.Platonov, and foremen: A.Kh.Yanbukhtin, and A.A.Shakin. There are no references.

TABLE OF CONTENTS:

Introduction	3
Ch. I. Basic Problems of Production Planning	6
Card 2/4	

MITROFANOV, SERGEY PETROVICH

PHASE I BOOK EXPLOITATION 853

Mitrofanov, Sergey Petrovich, Candidate of Technical Sciences

Grupповaya obrabotka detaley kak metod nauchnykh osnov tekhnologii
(Group Machining of Parts as a Basis of Scientific Development of
Production Methods) Leningrad, 1957. 115 p. 7,000 copies printed.

Sponsoring Agencies: Obshchestvo po rasprostraneniyu politicheskikh i
nauchnykh znaniy RSFSR and Leningradskiy dom nauchno-tekhnicheskoy
propagandy.

Ed.: Kutay, K.A., Candidate of Technical Sciences, Docent; Tech. Ed.:
Freger, D.P.

PURPOSE: This booklet is intended for tool and production engineers.

COVERAGE: The booklet presents a "group method" for machining based
on a classification of parts. It is stated that the group method
of production greatly reduces the preparation time for production,
and improves organization and efficiency of various operations.
The following figures show the increase in operating efficiency:

Card 1/4

Group Method of Machining Parts (Cont.)	829
5. Preparation of Production Tooling	42
6. Modernization of Equipment	56
Modernization of machine tools to reduce manual handling time	57
Modernization of lathes related to the grouping of machined parts	59
a) Multiposition devices for tool mounting	61
b) Turrets	64
Four-spindle turrets	64
Eight-spindle turrets	67
Use of lathe tail stock	69
Devices used for reducing time of setting tool for proper size	73
Longitudinal drum-type rests	73
Transverse rests	75
Conclusions	82
AVAILABLE: Library of Congress	GO/ksv 11-13-58
Card 3/3	

Group Method of Machining Parts (Cont.) 829

claimed that this method of machining reduces manual handling time, improves organization of production, and considerably increases operating efficiency. There is 1 Soviet reference.

TABLE OF CONTENTS:

Introduction	3
1. Preparing for the Manufacturing Processes	5
2. Principles for Developing Group Manufacturing Processes	10
3. Classification of Parts -- Grouping	13
4. Working Out Group Manufacturing Processes	30
a) Rough machining a part	33
b) Finishing a part	35

Card 2/3

PHASE I BOOK EXPLOITATION 829

Mitrofanov, Sergey Petrovich, Candidate of Technical Sciences

Gruppovoy metod obrabotki detaley na tokarnykh i frezernykh stankakh (Group Method of Machining Parts on Lathes and Milling Machines) Leningrad, 1956. 82 p. (Series: Leningradskiy dom nauchno-tekhnicheskoy propagandy. Informatsionno-tekhnicheskii listok, no. 35-39. Mekhanicheskaya obrabotka metallov) 10,000 copies printed.

Sponsoring Agencies: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy, Leningradskiy dom nauchno-tekhnicheskoy propagandy.

Tech. Ed.: Freger, D.P.

PURPOSE: This booklet is intended for tool and production engineers.

COVERAGE: The booklet describes the basic principles of a group method of machining parts on lathes and milling machines. It is

Card 1/3

N/5
741.416
.M6

MITROFANOV, S. P.

Metod gruppovoy obrabotki detaley na revol'vernnykh stankakh (Assembly
method machining of parts on turret lathes) Moskva, Mashgiz, 1955.
206 p. illus., diags., tables.
"Literatura" p. (204)

NITROFANOV, S. P.

5552. Nitrofanov, S. P. Ratsional'noye ispol'zovaniye revol'vernykh stankov. M., KOIZ, 1954. 23, (9)s. s chert. zl. sm. (Tsertr. sovet promysl. kooperatsii SSSR. Tekhn. upr. Obmen proizvod.-tekhn. onytom. Inform. listok.61). 1000 ekz. Bespl.----Avt. ukazan v kontse teksta.----(54-15080zh) 621.941.232

So: Krizhnava Letopis', Vol. 1. 1955

MITROFANOV, S. P.

21815 MITROFANOV, S. P. Zavisimost' fizicheskikh svoyst' letuchikh
rastvoriteley ot razlichnykh faktorov. Trudy Krasnodarsk, in-
pishch. prom-sti, vyp. 5, 1949, s. 149-65.

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949

MITROFANOV, S. I.

Moscow

"Einfluss der Trubestromung in der Flotationszelle auf Geschwindigkeit und Selektivitat der Flotation."

Report submitted for Tech Colloq on Theory & Practice of Flotation & Other Problems of Fine and Finest Granule Ore Dressing, Freiberg, GDR, 15-17 Nov 65.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134700017-6

MITROPANOV, S.I.; SOKOLOVA, G.Ye.; KHARITONOV, M.I.; TROYANOV, D.M.

Producing two barium concentrates for the petroleum and chemical industries at the Mirgalimsay ore dressing plant. TSvet. met. 38
no.5:9-11 My '65. (MIRA 18:6)

MITROFANOV, S.I. (Moskva); ROZIN, Ye.Ye. (Moskva); MAYOROV, A.D. (Moskva)

Influence of the speed of pulp flow in a compartment flotation
machine on the rate of flotation. Izv. AN SSSR. Met. i gor.
delo no.6:188-191 N-D '64. (MIRA 18:3)

MITROPANOV, S.I.; KUROCHKINA, A.V.

Characteristics of the flotation of molybdenite out of copper-
molybdenum ores of the same deposit. TSvet. met. 37 no.10:4-9
O '64. (MIRA 18:7)

KRYSENKO, N.S.--- (continued) Card 2.

tsvetnoy metallurgii, Sovet narodnogo khozyaystva SSSR (for Troitskiy). 8. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy tsvetnoy metallurgii (for Lezgintsev). 9. Gosudarstvennyy nauchno-issledovatel'skiy institut tsvetnykh metallov (for Mitrofanov, Sobol', Genin). 10. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut splavov i obrabotki tsvetnykh metallov (for Sclov'yev). 11. Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy institut mekhanicheskoy obrabotki poleznykh iskopayemykh (for Myagkova). 12. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy tsvetnoy metallurgii (for Gaylit).

KRYSENKO, N.S.; POZNYAKOV, V.Ya.; GAZARYAN, L.M.; ZADOV, Ye.B.;
KADYRZHANOV, K.K.; KUZ'MIN, A.V.; TROITSKIY, A.V.; LEZGINTSEV, G.M.;
MITROFANOV, S.I.; SOLOV'YEV, V.Ya.; SOBOL', S.I.; MYAGKOVA, T.M.;
GAYLIT, A.A.; GENIN, N.N.; GRATSEVSHTEYN, I.M.; SKORNYAKOV, Ye.I.,
referent

Fourth plenum of the central administration of the Scientific
Technological Society for Nonferrous Metallurgy. Tsvet. met.
38 no.5:90 My '65. (MIRA 18:0)

1. Chlen TSentral'nogo pravleniya Nauchno-tehnicheskogo obshchestva tsvetnoy metallurgii i zavod "Ukrts'ink" (for Krysenko).
2. Chlen TSentral'nogo pravleniya Nauchno-tehnicheskogo obshchestva tsvetnoy metallurgii i "Severonikel'" (for Poznyakov).
3. Institut metallurgii im. Baykova (for Gazaryan).
4. Predsedatel' soveta Nauchno-tehnicheskogo obshchestva Kol'chuginskogo zavoda OTsM (for ZadoV).
5. Chlen TSentral'nogo pravleniya Nauchno-tehnicheskogo obshchestva tsvetnoy metallurgii, Sovet narodnogo khozyaystva Kazakhskoy SSR (for Kadyrzhanov).
6. Predsedatel' gorno-geologicheskoy sekcii TSentral'nogo pravleniya Nauchno-tehnicheskogo obshchestva tsvetnoy metallurgii; Gosudarstvennyy komitet Soveta Ministrov ESFSR po koordinatsii nauchno-issledovatel'skikh rabot (for Kuz'min).
7. Chlen TSentral'nogo pravleniya Nauchno-tehnicheskogo obshchestva

(Continued on next card)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134700017-6

PATRIKEYEV, V.V.; BAIANDIN, A.A.; MITROFANOV, G.I.; ORIOVA, K.I.

Ore-contact gasification process. Zhur. prikl. khim. 38 no.3:
148-153 Ja '65. (Int'l. 1965)

METROPANOV S.I.

Remarks on the operation of the Tyrny-Auz ore dressing
plant. TSvet. met. 37 no.11:18-23 N '64. (MIRA 18:4)

MITROFANOV, S.I. (Moskva); KUSHNIKOVA, V.G. (Moskva)

Effect of potassium dichromate and sodium sulfide on amine adsorption on heavy metal sulfides in connection with their flotability. Izv. AN SSSR. Met. i gor. delo no.5:167-171 S=0 '64.

(MIRA 1821)

MITROFANOV, S. I.; KUSHNIKOVA, V. G.

"Selective adsorption of tridecylamine on sulfides in relation to their floatability."
report submitted for 7th Intl Mineral Processing Cong, New York, 20-25 Sep 64.

IZRAITEL', S.A., otv. red.; SKURAT, V.K., otv. red.; ZUBAREV, S.N., otv. red.; MOISEYEV, S.L., otv. red.; ASTAF'YEVA, A.V., kand. tekhn. nauk, red.; VAS'KOVSKIY, Ye.L., red.; VISHNEVSKIY, Ye.L., red.; KRIVTSOV, B.S., red.; KOROTKIN, I.N., red.; MITROFANOV, S.I., doktor tekhn. nauk, red.; NORKIN, V.V., kand. tekhn. nauk, red.; NIKITIN, A.A., red.; RUDNEV, A.P., red.; SLASTUNOV, V.G., red.; TKACHEV, F.A., red.; RAUKHVARGER, Ye.L., kand. tekhn. nauk, red.; FEOKTISTOV, A.T. [deceased], red.; ZAYTSEV, A.P., red.

[Safety regulations for the dressing and sintering of ferrous and nonferrous metal ores] Pravila bezopasnosti pri obogashchenii i aglomeratsii rud tsvetnykh i chernykh metallov. Moskva, Nedra, 1964. 106 p. (MIRA 18:4)

1. Russia (1917- R.S.F.S.R.) Gosudarstvennyy komitet po nadzoru za bezopasnym vedeniyem v promyshlennosti i gornomu nadzoru.

RYSKIN, M.Ya.; TSVETKOV, I.T.; MITROFANOV, S.I., prof., rukovoditel' raboty;
Prinimali uchastiye: BAKHTEYEV, N.Ye.; YOLOSOV, A.A.; SMOLYUK, L.P.

Combined filtration of fluxes and copper concentrate. TSvet. met. 36
no.12:76 D '63. (MIRA 17:2)

MESHCHANINOVA, V.I.; MITROFANOV, S.I.

Effect of the quality of cement concentrates and their preheating
on the output of filters. TSvet. met. 36 no.8:79-80 Ag '63.
(MIRA 16:9)

(Flotation) (Filters and filtration---Testing)

MITROFANOV, S.I.; RATNIKOVA, O.A.; GLAZUNOV, L.A.; SOLOGUB, D.V.

Ore dressing flow sheet at the Altyn-Topkan lead and zinc plant.
TSvet. met. 36 no.7:1-7 J1 '63. (MIRA 16:3)
(Altyn Topkan—Ore dressing)

MITROFANOV, S.I. (Moskva); KUROCHKINA, A.V. (Moskva)

Comparing the floatability of chalcocite, digenite, betekhtinite,
bornite and galenite. Izv. AN SSSR. Met. i gor. delo no.5:
152-153 S-0 '63. (MIRA 16:11)

MITROPANOV, S.I.

Generalization of discussions connected with the forthcoming
conference at the Exhibition of the Achievements of the
National Economy on speeding up the modernization and
improvement in the design of flotation machines. TSvet.mst
35 no.8:2-5 Ag '62. (MIRA 15:8)
(Flotation--Equipment and supplies)

MITROFANOV, S.I.; SOKOLOVA, G.Ye.; KHARITONOV, M.I.; TROFIKOVA, V.I.

Improving the technology of barite recovery at the Mirgalimsay Plant.
TSvet. met. 35 no.6:18-23 Je '62. (MIRA 1:6)
(Mirgalimsay region—Barite)

SOKOLOVA, G.Ye.; MITROFANOV, S.I.

Testing alkyl sulfates for the separation of baryte, calcite and
dolomite. TSvet. met. 35 no.1:16-21 Ja '62. (MIRA 16:7)
(Flotation--Equipment and supplies)

LUZANOV, V.K.; MITROPANOV, S.I., prof., nauchnyy rukovoditel'

Investigating the performance and the feasibility of using
centrifugal separator-mills. Sbor. nauch. trud. Gintsvetmeta
no.19:191-211 '62. (MIRA 16:7)

(Crushing machinery)
(Separators(Machines))

MITROPANOV, S.I.; ROZIN, Ye.Ye.; MESHCHANINOVA, V.I.

Assimilating in industrial conditions the combination method
for the dressing of low-floatability oxidized copper ores with
a high-content of chrysocolla. Sbor. nauch. trud. Gintsvetmeta
no.19:148-168 '62. (MIRA 16:7)

(Ore dressing) (Copper ores)

KUROCHKINA, A.V.; MITROFANOV, S.I.

Adsorption of copper and the activation of molybdenite. Sbor.
nauch. trud. Gintsvetmeta no.19:96-102 '62. (MIRA 16:7)

(Flotation) (Molybdenum sulfide)

KUROCHKINA, A.V.; MITROFANOV, S.I.

Desorption of anion collectors from molybdenite. Sbor. nauch.
trud. Gintsvetmeta no.19:88-95 '62. (MIRA 16:7)

(Molybdenum sulfide) (Desorption)

BAZANOVA, N.M.; MITROFANOV, S.I.

Activation and deactivation of zinc blends. Sbor. nauch. trud.
Gintsvetmeta no.19:75-87 '62. (MIRA 16:7)

(Flotation) (Sphalerite)

MITROPANOV, S.I.; FRUMKINA, R.A.[deceased]

~~SECRET~~
Relation between the average density of collectors and the
rate of flotation of various size pyrite particles. Sbor.
nauch. trud. Gintsvetmeta no.19:63-74 '62. (MIRA 16:7)

(Flotation) (Pyrites)

MITROFANOV, S.I.; FRUMKINA, R.A.[deceased]; RATNIKOVA, O.A.

Relation between the average density of collectors and the rate
of flotation of various size particles of galenite. Sbor. nauch.
trud. Gintsvetmeta no.19:44-62 '62. (MIRA 16:7)

(Flotation) (Galena)

KUSHNIKOVA, V.G.; VAN YUN-DE[Wang Yung-tieh]; MITROFANOV, S.I.

Adsorption of sodium diethyl dithiophosphate and copper cation
on pyrrhotine. Sbor. nauch. trud. Gintsvetmeta no.19:40-43
'62. (MIRA 16:7)

(Flotation) (Pyrrhotite)

MITROPANOV, S.I.; KUSHNIKOVA, V.G.

Sorption of copper and zinc cations on certain minerals. Sbor.
nauch. trud. Gintsvetmeta no.19:34-39 '62. (MIRA 16:7)

(Flotation) (Zinc) (Copper)

KUSHNIKOVA, V.G.; MITROFANOV, S.I.

Collector description from mineral surfaces. Sbor. nauch.
trud. Gintsvetmeta no.19:22-33 '62. (MIRA 16:7)

(Flotation--Equipment and supplies)

MITROFANOV, S.I.; KUSHNIKOVA, V.G.

Effect of the xanthate chain length on the kinetics of its
adsorption on the surface of pyrite, chalcopyrite, and galena
and its desorption by sodium sulfide. Sbor. nauch. trud.
Gintsvetmeta no.19-21 '62. (MIRA 16:7)

(Flotation--Equipment and supplies)

MITROFANOV, S. I. (Moskva); ROZIN, Ye. Ye. (Moskva); MESHCHANINOVA,
V. I. (Moskva)

Effect of chlorine ions on the flotation of cement copper.
Izv. AN SSSR. Otd. tekhn. nauk. Met. i topl. no. 6:179-184
N-D '62. (MIRA 16:1)

(Copper) (Flotation—Equipment and supplies)

MITROFANOV, S.I.; KUSHNIKOVA, V.G.

Adsorption and desorption of tridecylamine on quartz in connection with its floatability. Gor. zhur. no.3 '79 Mr '62. (MIRA 15-7)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut tsvetnykh metallov, Moskva.

(Quartz) (Flotation--Equipment and supplies) (Adsorption)

MITROFANOV, Spiridon Ivanovich, prof., doktor tekhn.nauk; BARSKIY,
L.A., otv. red.; GABER, T.N., red. izd-va; OVSEYENKO, V.G.,
tekhn. red.

[Studying the beneficiation properties of minerals] Issledovanie
poleznykh iskopaemykh na obogatimost'. Izd.3., perer. i dop.
Moskva, Gosgortekhzdat, 1962. 579 p. (MIRA 16:3)
(Minerals—Analysis) (Ore dressing)

MITROPANOV, S.I.; KUSHNIKOVA, V.G.; Prinsipal uchastiye: GAYDARZHIYEV,
S.S., inzh.

Effect of temperature on the adsorption of tridecylamine on
smithsonite and other minerals. TSvet. met. 34 no.11:17-19
N '61. (MIRA 14:11)
(Flotation—Equipment and supplies)

MITROFANOV, S.I.; KUSHNIKOVA, V.G.

Effect of the liquid to solid ratio on the adsorption of butyl
xanthate on sulfides. TSvet. met. 34 no. 4:67-68 Ap '61.
(MIRA 14:4)
(Flotation—Equipment and supplies) (Adsorption)

BAZANOVA, N.M.; MITROFANOV, S.I.

Kinetics of copper sorption on zinc blende. Obog. rud 6 no.2:17-20
'61. (MIRA 14:8)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut tsvetnykh
metallov.

(Flotation) (Nonferrous metals)

MITROPANOV, S.I.; KUSHNIKOVA, V.G.

Effect of pH on the adsorption of tridecylamine on minerals.
TSvet. met. 33 no.10:1-4 0 '60. (MIRA 13:10)
(Flotation--Equipment and supplies)

MITROFANOV, S.I.

Contribution to the problem of "High speed flotation." TSvet.
met. 33 no.8:28-31 Ag '60. (MIRA 13:8)
(Flotation--Equipment and supplies)

MITROPANOV, S.I.

G.V.Kozlov's article "Collective selective flotation of complex copper-zinc ores." TSvet.met. 33 no.5:76-77
M₇ '60. (MIRA 13:7)
(Flotation) (Nonferrous metals)
(Kozlov, G.V.)

MITROMANOV, S.I.; MELIK-STEPANOV, Yu.G.; SOKHIN, Yu.M.; BORISOV, V.V.

Ore dressing on a shaker trough. TSvet.net. 33 no.1:17-22
Ja '60. (MIRA 13:5)
(Ore dressing--Equipment and supplies)

MITROFANOV, S.I., prof.

Speed and selectivity of the flotation of ilmenite. Obog.
rud 5 no.1:52-53 '60. (MIRA 14:8)
(Flotation) (Ilmenite)

On a new application of movable heavy media...

S/137/61/000/011/037/123
A060/A101

vibratory action on the heavy moving medium in "BX" ("VZh") apparatus acts to render it denser and raise its specific gravity to 3.15 - 3.2. An electronic apparatus has been worked out for the control of the specific gravity of the medium, using a capacitance transducer as the density indicator. A semi-industrial installation "VZh-3" has been designed and constructed, and is being tested. The schematic diagrams are given.

A. Shmeleva

[Abstracter's note: Complete translation]

Card 2/2

S/137/61/000/011/037/123
A060/A101

AUTHORS: Mitrofanov, S. I., Melik-Stepanov, Yu. G., Sokhin, Yu. M., Borisov, V. V.

TITLE: On a new application of movable heavy media for the concentration of minerals with specific gravity exceeding three

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 11, 1961, 7, abstract 11G50 ("Nauchno soobshch. Yakutskiy fil. Sib. otd. AN SSSR", 1960, no. 3, 50 - 61)

TEXT: One of the problems of this work was the finding of the cheapest, but sufficiently efficacious materials for the moving layer. The following ore materials were studied: hematite-magnetite dredge slimes, magnetic fraction of jigging concentrate - 1 mm, ground up magnetic fraction of the jigging concentrate - 1 mm and even - 1 + 0.5 mm. The best results were obtained with a moving layer of ilmenite-magnetite material. Its high specific gravity of 4.75 makes it possible to vary the specific gravity of the moving layer between wide limits depending on the grist fineness. In course of the investigations the necessary parameters were studied. When the volume of the weighting compound is great then the

Card 1/2

MITROFANOV, S.I.; SOKOLOVA, G.Ye.

Dressing of Tekeli ores. Sbor.nauch.trud.GINTSVETMET no.16:191-
224 '59. (MIRA 14:4)
(Tekeli region (Aktyubinsk Province)--Ore dressing)

MITROFANOV, S.I.; ROZIN, Ye.Ye.; SOKOLOVA, G.Ye.

Effect of certain factors on the dispersion of air in a flotation
machine. Sbor.nauch.trud.GINTSVETMENT no.16:102-127 '59.
(MIRA 14:4)

(Flotation--Equipment and supplies)

GLAZUNOV, L.A.; MITROFANOV, S.I.

Stability of reducing ions in conditions of flotation. Sbor.nauch.
trud.GINTSVETMET no.16:71-80 '59. (MIRA14:4)
(Flotation) (Ions)

MITROFANOV, S.I.; KUSHNIKOVA, V.G.

Studying the sulfidization of oxidized zinc minerals not readily
processes by flotation. Sbor.nauch.trud.GINTSVETMET no.16:33-40
159. (MIRA 14:4)

(Flotation) (Zinc ores)

MITROFANOV, S.I.; KUSHNIKOVA, V.G.

Adsorption of butyl xanthate on pyrrhotine. Sber.nauch.trud.
GINTSVETMET no.16:25-32 '59. (MIRA 14:4)
(Flotation--Equipment and supplies) (Adsorption)

MITROFANOV, S.I.; KUSHNIKOVA, V.G.

Adsorption of diethyl dithiophosphate and butyl xanthate on the
surface of sulfides in an acid medium. Sbor.nauch.trud.GINTSVETMET
no.16:9-24 '59. (MIRA 14:4)
(Adsorption) (Flotation--Equipment and supplies)

52

65700

SOV/136-59-10-17/18

Meeting of the Non-Ferrous Metals Ore Beneficiation Section of the
Standing Committee SEV

papers dealing with matters of general interest and
describes, briefly, his impressions from a visit to two
ore dressing plants (Im. Marchlewski and Orzel Bialy).

Card 2/2

0.0000

65700

SOV/136-59-10-17/18

AUTHOR: Mitrofanov, S.I.

TITLE: Meeting of the Non-Ferrous Metals Ore Beneficiation
Section of the Standing Committee SEV

PERIODICAL: Tsvetnyye metally, 1959, Nr 10, pp 88-92 (USSR)

ABSTRACT: An ordinary session of the Ore Beneficiation Section of the Standing Committee SEV was held in Katowice (Polish Peoples Republic) in June 1959. The main object of the meeting was to consider various means of improving the efficiency and increasing the productivity of ore beneficiation plants in the countries belonging to SEV. In all, fifteen papers were read and discussed by delegates from the following countries (number in brackets indicates the number of papers contributed): Bulgaria (1), Hungary (1), Poland (1), Rumania (1), German Democratic Republic (4), Soviet Union (3) and Czechoslovakia (4). In their contributions, the delegates described, mainly, various improvements in the organization of the ore beneficiation plants and measures adopted in overcoming difficulties associated with the complex character of the treated ores. The present author gives a short resume of

Card 1/2

SOV/136-59-2-20/24

- Organisation of the Flotation-Reagent Section in the Standing Committee on Synthetic Surface-Active Agents of the GNTK USSR and the Problems Facing It

• • • • (Gosplan USSR); M.A.Eygeles, Professor, Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya (All-Union Scientific Research Institute for Mineral Raw Materials). The author enumerates the tasks of the section and notes that at a conference on the 10th December 1958, the programme of work for the section was adopted. This conference heard the following reports: S.I.Mitrofanov, Professor, on "Directions and Projects for Research Work in 1959 in the Field of the Production and Use of Flotation Reagents"; A.K.Iivshits, Candidate of Technical Sciences on "Xanthate Production Methods"; D.M.Rudkovskiy, Candidate of Technical Sciences on "Production of Washing Media from Flotation Reagents". The conference adopted resolutions aimed at increasing facilities for research on flotation reagent and improving its co-ordination. At a conference on the 14th-17th December 1958 of the standing committee on

Card 3/4

2/2

MITROFANOV, S.I.

2nd. card

SOV/136-59-2-20/24

AUTHOR: Okolovich, A.

TITLE: Organisation of the Flotation-Reagent Section in the Standing Committee on Synthetic Surface-Active Agents of the GNTK USSR and the Problems Facing It (Organizatsiya seksii flotatsionnykh reagentov v postoyannoy komissii po sinteticheskim poverkhnostno aktivnym veshchestvam pri GNTK SSSR i yeye zadachi)

PERIODICAL: Tsvetnyye Metally, 1959, Nr 2, pp 84-85 (USSR)

ABSTRACT: One of the four sections of the surface-active agents committee of the GNTK of the Sovet Ministrov SSSR (Council of Ministers of the USSR) is that dealing with flotation reagents. The following have been confirmed as members: I.N.Plaksin, corresponding member AN SSSR (AS USSR) of IGD of the AS USSR (Chairman); O.S.Bogdanov, Professor, Mekhanobr Institute; Ye.S.Alekseyev, Sredneural'skiy Medeplavil'nyy zavod (Sredneural'skiy Copper Smelting Works); K.G.Bagatur'yants, Gosudarstvennyy komitet (State Committee) of the Council of Ministers of the USSR; S.I.Gorlovskiy, Mekhanobr Institute; L.A.Ivanova, Nauchno-issledovatel'skiy . . .

Card 1/4

YEVSIovich, Simon Gdal'yevich; MITROFANOV, S.I., prof., retsazent;
TROITSKIY, A.V., inzh., retsazent; VERIGO, K.N., red.;
YEZDOKOVA, M.L., red.izd-va; KARASHV, A.I., tekhn.red.; KORO-
VIENKOVA, Z.A., tekhn.red.

[Ore dressing in heavy suspensions] Obogashchenie rud v tiazhe-
lykh suspensiyakh. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po
gornomu delu, 1959. 290 p. (MIRA 13:4)
(Ore dressing)

MITROPANOV, S.I.

Using radiography in works on the flotation theory. Tsvet. met. 31
no.4:75-76 Ap '58. (MIRA 11:5)

1. Gintsvetmet.
(Flotation) (X rays--Industrial applications)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134700017-6

NITROFANOV, S.I.; KUSHNIKOVA, V.G.

Absorption of chromium compounds on sulfide minerals during the
addition of dichromates. Tsvet. sot. 37 no. 6: 5-17, 1964.
(RRA 179)

ILLEGIBLE

SOV/136-53-10-3/27

Study of the Adsorption of Dithiophosphate and Xanthate by
Molybdenite

to depend on the pH: the curve for diethyldiphosphate being linear and for pH = 2-10 while that for butyl xanthate had a maximum at pH = 6. Linear relations were found between the logarithm of time and the quantity adsorbed at various pH values (Figure 5), temperatures, (Figure 6) and concentrations (Figure 7). Adsorption is hindered by the presence of a hydrocarbon film formed by pre-treatment (Figure 8) but treatment with hydrocarbons after adsorption protects the reagent from desorption (Figure 9) by sodium sulphide. There are 9 figures and 5 Soviet references.

ASSOCIATION: Gintsvetmet

Card 2/2

SOV/136-58-10-3/27

AUTHORS: Kurochkina, A.V. and Mitrofanov, S.I.

TITLE: Study of the Adsorption of Dithiophosphate and Xanthate by Molybdenite (Izucheniye adsorbtsii ditiofosfata i ksantogenata molibdenitom)

PERIODICAL: Tsvetnyye Metally, 1958, Nr 10, pp 17 - 21 (USSR)

ABSTRACT: Doubt remains on the function of dithiophosphate and xanthate in molybdenite flotation, although much work (Refs 1 - 5) has been done. Neither the authors (Ref 3) nor the other investigators measured the adsorption of the reagents directly and accurately. In the present work, this was done by using ethyl dithiophosphate containing P^{32} and butyl xanthate containing S^{35} with the - 0.10 + 0.04 and +0.30 + 0.044 mm mineral (0.85% moisture, 50.55% molybdenum, 9.2% silicic acid, 0.03% copper, 0.14% iron). 0.5-grain samples were used with the addition of 10 ml portions of the activated collector solutions. After filtering, the solid was washed with water or acid solutions. Washing with 25 ml was found to be sufficient (Figures 1, 2); sodium sulphide caused desorption of both reagents (Figures 1, 2); the adsorption was found (Figures 1,3,4)

Card 1/2

Kinetics of the Sulphidisation of Smithsonite and Calamine and
Collector Adsorption on their Surface SOV/136-58-6-11/21

Sulphidisation lowers the adsorption of xanthate on calamine; adsorption of collector rises sharply on calamine and smithsonite after activation by copper sulphate, especially after sulphidisation before activation; however, elevation of the concentration above a certain level lowers the adsorption of collector. There are 8 figures and 2 Soviet references.

ASSOCIATION: Gintsvetmet

Card 3/3

SOV/136-58-6-11/21

Kinetics of the Sulphidisation of Smithsonite and Calamine and
Collector Adsorption on their Surface

(Figure 3) were studied as well as the influence of potassium-xanthate concentration on its adsorption on calamine for various states of sulphidisation and activation (Figure 4). Tests on adsorption were also carried out, showing the influence of pH on the recovery of calamine in the concentrate and adsorption of butyl xanthate on it (Figure 5), of mixing time at various temperatures (Figure 6). Comparison of the curves shows a parallelism between amenability to flotation of the minerals and adsorption of the collector, especially evident with simultaneous action of a depressor for a constant consumption of collector (Figure 7); the range of parallelism otherwise is limited (Figure 8). The authors' give equations for the growth of the sulphide film and the adsorption covering by diethyldithiophosphate and xanthate on the minerals. The apparent activation energy for the sulphidisation of calamine and smithsonite are given as 5540 and 3880 cal, and that for the adsorption of dithiophosphate and isoamyl xanthate 2400 cal.

Card 2/3

SOV/136-58-6-11/21

AUTHORS: Mitrofanov, S.I. and Kushnikova, V.G.

TITLE: Kinetics of the Sulphidisation of Smithsonite and Calamine and Collector Adsorption on their Surface
(Kinetika sul'fidizatsii ~~Smithsonita~~ i kalamina i adsorbtsii sobiratelya na ikh poverkhnosti)

PERIODICAL: Tsvetnyye Metally, 1958, Nr 6, pp 62 - 65 (USSR)

ABSTRACT: The conditions for the sulphidizing of the important oxidising zinc minerals smithsonite and calamine, respectively, from the Tetyukinskoye and Tayninskoye deposits, and the adsorption on them of collectors has been studied by the authors with the aid of radioactive isotopes (S^{35} and P^{32}). The minerals were ground and the -0.3 + 0.15 mm fraction screened out. 10 ml of a sodium sulphide (sulphate-free) solution containing S^{35} were taken with 0.5 g of mineral for the sulphidisation experiments, the radioactivity of the solid separated after a given time and washed under standard conditions being determined. The effects on sulphide adsorption of its initial concentration (Figure 1), of pH (Figure 2) of mixing time at different temperatures (10 to 67 °C)

Card1/3

MITROFANOV, S.I.; SOKOLOVA, G.Ye.

Flotation of some minerals with alkyl sulfate. Obog. rud 3
no.6:12-15 '58. (MIRA 14:8)

(Flotation)

Differential Flotation; Theory and Practice

SOV/1294

COVERAGE: The book presents the basic elements of the theory of flotation, based both on Soviet and non-Soviet studies, and also describes flotation in actual practice at concentration plants. Details are given at various processes, and basic equipment and production-control methods are described. There are 420 references, of which 240 are Soviet, 156 English, 17 German, 5 French, 1 Swedish, and 1 Finnish. No personalities are mentioned.

TABLE OF CONTENTS:

Preface	7
Introduction	9

PART I. SOME ELEMENTS OF THE THEORY OF
FLOTATION

Ch. 1. Characteristics of Phases and Boundary Layers	13
1. Liquid phase (water)	

Card 2/ 13

18(5)

PHASE I BOOK EXPLOITATION

SOV/1294

Mitrofanov, Spridon Ivanovich

Selektivnaya flotatsiya; teoriya i praktika (Differential Flotation; Theory and Practice), Moscow, Metallurgizdat, 1958. 726 p.
3,300 copies printed.

Reviewers: Eygeles, M.A., Doctor of Technical Sciences; Strel'tsin, G.S., Candidate of Technical Sciences; and Matveyenko; N.V., Engineer; Ed.: Troitskiy, A.V.; Ed. of Publishing House: Yezdokova, M.L.; Tech. Ed.: Vaynshteyn, Ye. B.

PURPOSE: This book is intended for engineers and technicians engaged in the beneficiation of metallic and nonmetallic minerals. It may also be used by students of secondary and higher educational institutions, as well as by employees of concentration plants in various branches of industry.

Card 1/13

MITROFANOV, S. I. Professor (Gintsvetmet)

"Sorption and the depressing action of reagents"

report presented at the 4th Scientific and Technical Session of the Mekhanobr
Inst, Leningrad, 15-18 July 1958

SOV/137-58-7-15743

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 262 (USSR)

AUTHOR: Mitrofanov, (No initials given)

TITLE: ~~Influence of Elevated Temperature~~ on the Mechanical Properties of Sheet Iron (Vliyaniye vysokoy temperatury na mekhanicheskiye svoystva listovogo chuguna)

PERIODICAL: Tr. Dal'nevost. politekhn. in-ta, 1957, Vol 47, Nr 7, pp 1-7

ABSTRACT: Three types of sheet iron were tested. Roofing sheet iron, structural sheet iron inoculated with Mg (MSI), and low-carbon sheet iron. It was found that sheet iron can be used in load-carrying structures exposed to a 300°C temperature; in this case MSI is preferable since its range of elevated brittleness lies in the 350-450° temperature range. On the other hand, its range of maximum plastic deformability lies in the temperature interval between 300 and 350°. One of the many factors affecting the decrease in strength and plasticity at 500° and higher is the separation in the solid solution of finely dispersed phases the strength and plasticity of which is lower than that of the ferrite grain. 1. Iron--Mechanical properties 2. Sheets--Temperature factors
A. S.

Card 1/1

SOV/137-58-10-20408

The Influence of Pulp pH on the Desorption of a Collector (cont.)

as follows: $\text{CuS} \rightarrow \text{activated ZnS} \rightarrow \text{PbS} \rightarrow \text{FeS}_2$. The optimum pH values for various minerals at which the best desorption of collector is observed are determined. A parallelism is found between the phenomenon of xanthate desorption from mineral surfaces and floatability. It is demonstrated that it is possible to separate various sulfide minerals at strictly determinate pH values.

N. M

1. Hydrogen ion concentration--Chemical effects
2. Metal sulfides--Surface properties
3. Minerals--Flotation
4. Iron cyanide--Chemical reaction

SOV/137-58-10-20408

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 8 (USSR)

AUTHORS: Kuznetsova, L. N., ~~Mitrofanov, S. I.~~

TITLE: The Influence of Pulp pH on the Desorption of a Collector From the Surface of Sulfide Minerals by Complex Iron Cyanides (Vliyanie pH pul'py na desorbtsiyu sobiratelya s poverkhnosti sul'fidnykh mineralov kompleksnymi tsianidami zheleza)

PERIODICAL: Tr. N. -i. gorno-razved. in-ta "Nigrizoloto", 1957, Nr 23, pp 116-121

ABSTRACT: In this work a study is made of the influence of complex Fe cyanides on the adsorption and desorption of a collector from the surfaces of sulfides. Investigation of the reaction of collector and complex Fe cyanides on the surface of sulfides was performed in terms of relation to pH value under conditions of rigorous and constant control thereof. The method of investigation is adduced, and the results thereof are set forth. Investigations have determined that the action of the cyanides depend upon pH. $K_4[Fe(CN)_6]$ is a good desorbent and depressant for a number of sulfide minerals. All the minerals may be arranged in series in declining order of degree of "depression" by $K_4[Fe(CN)_6]$.

Card 1/2

SOV/137-58 9-18300

Translation from: Referativnyy zhurnal, Metallurgiya, 1958. Nr 9 p 11 (USSR)

AUTHOR: Mitrofanov, S. I.

TITLE: Utilization of Radioactive Isotopes in the Investigation and Control of Ore Dressing Processes (Ispol'zovaniye radioaktivnykh izotopov v issledovanii i kontrole protsessov obagashcheniya)

PERIODICAL: Sb. statey Vses. zaochn. politekhn. in-ta, 1957, Nr 18, pp 76-87

ABSTRACT: In ore dressing (D), radioactivity can be used directly in the organizing of the process of D as a means of control of the D process, as well as in the investigation of various phenomena related to the D processes. The development of the works on the utilization of radioactive isotopes permits not only to broaden our knowledge in the realm of the theory of D processes but also to organize the automation of control and regulation of the processes of grinding, flotation etc.

1. Ores--Processing 2. Radioisotopes--Performance

M. M

Card 1/1

137-58-4-6397

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4 p 9 (USSR)

AUTHORS: Kurochkina, A. V., Mitrofanov, S. L.

TITLE: Combined Method for the Treatment of Hard Concentrated ("Persistent") Oxidized Ores (Kombinirovannyi metod pererabotki dzhelaznykh "upornykh" okislennykh rud)

PERIODICAL: Sb. nauchn. tr. Gos. n.-i. in-t tsvetn. met., 1957, Nr 13, pp 28-41

ABSTRACT: The following procedure for the treatment of "stubborn ores" was developed. Leaching for 48 min. The acid consumed was 3.38-5.3 kg per kg Cu. Residual acidity after leaching 0.2 percent. Carburization for 10 min in iron filings, and 5 min with sponge Fe. Consumption of precipitant: 3 kg per kg Cu. Residual acidity 0.05 percent. Flotation with grinding of 70 percent of ore to 0.074 mm. Density of classifier tailings 29-33 percent. Duration (in min) of major flotation 22-25, of control flotation 15, of first re-cleaning 5-7, of second re-cleaning 5-15. Consumption of reagents: Frother 200-350 g/t, xanthogenate 200 g/t.

G S

Card 1/1 1. Ores--Processes--Test methods 2. Ores--Processes--Test results

MITROFANOV, S.I.

136-8-17/21

AUTHOR: Mitrofanov, S.I.

TITLE: On the Article by N.V.Matveyenko, "Kinetics of Flotation on the Basis of Similarity Between Absorption and Mineralization of Air Bubble" (Po povodu stat'i N.V.Matveyenko, "Kinetika flotatsii na osnove podobiya mezhdu adsorbtsiyey i mineralizatsiyey puzyr'kov vozdukh")

PERIODICAL: Tsvetnye Metally, 1957, Nr 8, pp.80-82 (USSR)

ABSTRACT: The author discusses the equations proposed by Matveyenko to represent the kinetics of flotation, published in Tsvetnye Metally, 1957, Nr 7. He shows plots of forms of these equations and of those proposed by other authors which show good agreement with experimental points. He maintains, however, that too much attention has been devoted in the journal to formal representations of the kinetics of flotation and not enough to the study of the influence of various factors on the kinetics.

AVAILABLE: Library of Congress.

Card 1/1

MITROFANOV, S. I., Prof., State Non-Ferrous Metals Research Institute, Moscow,
and KUSNIKOVA, V. G., Assistant, State Non-Ferrous Metals
Institute, Moscow

"Adsorption of Diethyldithiophosphate and Butyl Xanthate by Sulphides,"
a paper presented at the International Congress on Mineral Dressing, Stockholm,
18-21 Sep 57.

c-3,800,349

MITTROPANOV, S. I., Professor at Ginevetmet (State Non-Ferrous Metals Research Inst.,
Moscow)

"Solution of Some Problems Concerning the Theory and Practice
of Selective Flotation in the USSR" a paper submitted at the International
Congress on Mineral Dressing, Stockholm, Sweden, 16-21 Sep 57

C-3,800,349

Mitrofanov, S. I.

USSR/Physical Chemistry - Surface Phenomena. Adsorption. Chromatography. Ion
Exchange, B-13

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 580

Author: Beloglazov, K. F., Mitrofanov, S. I.

Institution: Leningrad Mining Institute

Title: Fundamental Relationships of the Flotation Process; Present State of
the Theory of the Flotation Process; Survey of Discussion of the Re-
port by Professor K. F. Beloglazov "Fundamental Relationships of the
Flotation Process."

Original

Periodical: Zap. Leningr. gorn. in-ta, 1956, Vol 32, No 3, 23-35; 37-54; 55-81

Abstract: Reports and discussion of the seminar held in March-April 1951 at the
Leningrad Mining Institute.

Card 1/1

KUZNETSOVA, L.N.; MITROFANOV, S.I.

On the mechanism of cyanide and zinc sulfate depression of heavy-metal sulfide minerals. TSvet.met.29 no.3:5-9 Mr '56. (MLRA 9:7)

1.Nigrizoleta:

(Radioactive tracers--Industrial application)(Zinc--Metallurgy)(Cyanides)

MITROPANOV, S.I.
MITROPANOV, S.I.

Flotation rate equation of the second order. TSvet.met.27
no.3:7-11 My-Je '54. (MIRA 10:10)
(Flotation)

MITROPANOV, S.I.; KUROCHKINA, A.V.; SOKOLOVA, G.Ye.

Oxidation of sodium sulfide during flotation. Tsvet. met. 27 no.1:
19-23 Ja-F '54. (MLRA 10:9)

1. Gosudarstvennyy institut tsvetnykh metallov.
(Sodium sulfides) (Oxidation)

MITROPANOV, S.I., professor; ARASHKEVICH, V.M., dotsent, kandidat tekhnicheskikh nauk, retsenzent; TROITSKIY, A.V., redaktor; VERIGO, K.N., redaktor; MIKHAYLOVA, V.V., tekhnicheskiy redaktor

[Testing ores for dressing qualities; practical manual] Issledovanie rud na obogatimost'; prakticheskoe rukovodstvo. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1954. 494 p. (MLRA 7:10)
(Ore dressing)

MITROPANOV, S.I., professor.

Against subjectiveness in works on the theory of flotation. TSvet.
met. 26 no.2:20-26 Mr-Apr '53. (MLBA 10:9)
(Flotation)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134700017-6

MITROFANOV, S. I.

"Ore Analysis and Enrichment," 1951.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134700017-6

MITRCFANOV, S. I.

Research on ore-dressing; a practical manual. Moskva, Gos. naučno-tekhn. izd-vo lit-ry
po cherno i tsvetnoi metallurgii, 1950. 302 p. 50-35000

TN500.M58

MITROFANOV, S. I.

PA 16T103

USSR/Metals - Nonferrous
Mineral deposits

May/Jun 1947

"Results of Work on Testing of Nonferrous and Rare
Metal Ores for Concentration in Heavy Suspensions,"
S. I. Mitrofanov, State Institute for Nonferrous
Metallurgy, 3 pp

"Tsvetnyye Metally" No 3

Discussion of ore content necessary to meet present
requirements. Due to large supply of low grade ore,
recommends present methods of concentration be
altered. Work on the latter to be conducted at
Experimental Institute (State Institute for Nonferrous
Metallurgy).

16T103

137-1958-3-4519

, Kinetics of Diethyldithiophosphate and Ethylxanthogenate (cont.)

powder with the collector solution; a and n are constants. On the surface of the pyrite, the adsorption rate of the collectors I and II increases with an increase in the temperature of the pulp. The apparent energy of activation is approximately 2.4 kcal. for the adsorption of II. Kinetic isotherms for various temperatures all show a break at a point which corresponds essentially to the same amount of adsorbed substance, perhaps to the saturation of a monomolecular layer. The adsorption of the collector and of the Ca^{++} ion by the pyrite, as a function of the pH is determined by the equation: $G = a \pm v \cdot \text{pH}$. Ca^{++} ions present in solution (with a pH of 9) affect the adsorption of II by the pyrite only slightly. According to the results obtained, low temperatures and increased velocity of flotation are essential for effective separation of Cu and Pb sulfides from pyrite, because at low temperatures the adsorption rate of the collector substance by the pyrite is small.

A. Sh.

Card 2/2

Mitrofanov S.I.

137-1958-3-4519

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 6 (USSR)

AUTHORS: Mitrofanov, S. I., Ratnikova, O. A.

TITLE: Kinetics of Diethyldithiophosphate and Ethylxanthogenate
Adsorption by Pyrite (Kinetika adsorbtsii dietilditiofosfata i
etilksantogenata na pirite)

PERIODICAL: Sb. nauchn. tr. Gos. n.-i. in-t tsvetn. met., 1957, Nr 13,
pp 20-27

ABSTRACT: A study of certain factors which influence the adsorption of
Na diethyldithiophosphate (I) and of ethylxanthogenate (II) by
pyrite. When the consumption of the collector is uniform per
each ton of solid, and the solid-to-liquid ratio is constant, the
adsorption rate per unit of surface of the mineral powder is
greater for large grades than it is for fine ones (within the
limits of the sizes tested of -0.3 and + 0.044 mm); the kinetic
isotherms of the adsorption of I and II are defined by the equation
 $G = at^{1/n}$, and the isochrones are determined by the equation
 $G = aC_o^{1/n}$, where G is the amount of the collector substance
adsorbed by the powder; t is the time required for mixing of the

Card 1/2

1ST AND 2ND ORDERS										PROCESSES AND PROPERTIES INDEX										3RD AND 4TH ORDERS									
<p>Flotation of sphalerite. S. I. Mitrofanov. U.S.S.R. 69,430, Nov. 30, 1947. Roasted Cu concentrate is used for the activation of sphalerite in the flotation of Pb-Zn M. Huseh MCH.</p>																													
<p>U.S.S.R. METALLURGICAL LITERATURE CLASSIFICATION</p>																													
<p>SECTION 1</p>										<p>SECTION 2</p>										<p>SECTION 3</p>									

ea

Effect of flow velocity of the pulp on the velocity and selectivity of flotation. S. I. Mitrofanov. *Tsvetnaya Metal* 10, No. 17, 16-20 (1941); *Chem. Zentr.* 1943, I, 2027. Flotation expts. on limestone samples with Pb-Zn inclusions showed that an increase in the flotation velocity caused not only an acceleration in the flotation as shown by an increase in the output per unit time but also caused a certain, although small, improvement in selectivity and in the properties of the concentrate. The latter was particularly noticeable at the beginning of a run. M. assumes that the output of a flotation machine may, in this wise, be increased 6-8 times but one must be careful that the rate of aeration does not drop. Reworking flotation fractions in the same machine, as in ore flotation, is not economical. The time of this operation can be shortened to a minimum, or less, which makes the use of special machines advantageous. Iver Igelstrud

AIJ-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134700017-6

MITROPOL, S. I.

Professor. " 'Blending' of ores and 'Nonsections' in Concentration Plants", Trud. Met. 14, No. 10-11, Oct.-Nov. 1939.

Report U 1506, 4 Oct. 1951

MITROFANOV4S818

600

1. MITROFANOV, S.I.

2. USSR (600)

Professor, Ordzhonikidze Institute of Nonferrous Metals. "The Speed with which Pulp Passes Through a Flotation Machine and the Speed of Flotation", Tsvet. Met. 14, No 8, August 1939.

9. ■■■ Report U-1506, 4 Oct. 1951.

1ST AND 2ND COPIES		3RD AND 4TH COPIES	
<p>CA</p> <p>THEORY AND LAYOUT OF MECHANICAL FLOTATION MACHINES N. I. Mironov. <i>Tekhn. Mash.</i> 1939, No. 9, 11-13. <i>Khiz. Razr. Zhur.</i> 1940, No. 4, 120; cf. C. A. 34. 12119. The existing flotation machines of the mech. and pneumatic type are essentially centrifugal, axial or air pumps. On the basis of the theory for the layout of parts of centrifugal pumps and ventilators it is possible to det. all fundamental details of various flotation machines. To create the most effective model it is necessary to det. the characteristics of the fundamental types of mech. and flotation machines, similar to those of pumps, and to introduce addnl. curves characterizing the flotation effec- tiveness of the machine. Analysis of the layout of the vol. efficiency of the impeller and some construction de- tails of mech. flotation machines are given. W. R. H.</p>			
<p>15000 17000 18000 19000 20000 21000 22000 23000 24000 25000 26000 27000 28000 29000 30000 31000 32000 33000 34000 35000 36000 37000 38000 39000 40000 41000 42000 43000 44000 45000 46000 47000 48000 49000 50000 51000 52000 53000 54000 55000 56000 57000 58000 59000 60000 61000 62000 63000 64000 65000 66000 67000 68000 69000 70000 71000 72000 73000 74000 75000 76000 77000 78000 79000 80000 81000 82000 83000 84000 85000 86000 87000 88000 89000 90000 91000 92000 93000 94000 95000 96000 97000 98000 99000 100000</p>			
<p>15000 17000 18000 19000 20000 21000 22000 23000 24000 25000 26000 27000 28000 29000 30000 31000 32000 33000 34000 35000 36000 37000 38000 39000 40000 41000 42000 43000 44000 45000 46000 47000 48000 49000 50000 51000 52000 53000 54000 55000 56000 57000 58000 59000 60000 61000 62000 63000 64000 65000 66000 67000 68000 69000 70000 71000 72000 73000 74000 75000 76000 77000 78000 79000 80000 81000 82000 83000 84000 85000 86000 87000 88000 89000 90000 91000 92000 93000 94000 95000 96000 97000 98000 99000 100000</p>			